COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

NORTHERN REGIONAL OFFICE

13901 Crown Court, Woodbridge, Virginia 22193

(703) 583-3800 Fax (703) 583-3821

www.deq.virginia.gov

Douglas W. Domenech
Secretary of Natural Resources

David K. Paylor
Director

Thomas A. Faha
Regional Director

December 21, 2012

Mr. Dean C. Rodgers
General Manager
Louisa County Water Authority
P.O. Box 9
Louisa, VA 23093

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Re: VPDES Permit No. VA0090743
The Zion Crossroads WWTP, Louisa County

Dear Mr. Rodgers:

The Department of Environmental Quality (DEQ) has approved the enclosed effluent limitations and monitoring requirements for the aforementioned permit. Copies of your permit and fact sheet are enclosed.

The first eDMR submittal for the month of January 2013 is due by February 10, 2013. Please reference the effluent limits in your permit and report monitoring results in eDMR to the same number of significant digits as are included in the permit limits for the parameter.

Please note that compliance with the permit's requirements for use and disposal of sewage sludge do not relieve you of your responsibility to comply with federal requirements set forth in 40 CFR Part 503. Until DEQ seeks and is granted authority to administer the Part 503 regulations by EPA, treatment works treating domestic sewage should continue to work directly with EPA to comply with them.

If this permit is to be reissued in five years, there are specific testing requirements associated with the Form 2A reissuance application that are different from the testing requirements in your permit. In order to provide the necessary data for Form 2A, you may need to begin additional sampling during the term of this permit prior to receiving a reissuance reminder letter from this agency. Please look at Form 2A Part D (Expanded Effluent Testing Data) and Part E (Toxicity Testing Data) for the sampling requirements. Note that DEQ and EPA will no longer accept waiver requests from the sampling or testing requirements in the application forms.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty days from the date of service (the date you actually received this decision or the date it was mailed to you, whichever occurred first) within which to appeal this

decision by filing a notice of appeal in accordance with the Rules of the Supreme Court of Virginia with the Director, Department of Environmental Quality. In the event that this decision is served on you by mail, three days are added to that period.

Alternately, any owner under §§ 62.1-44.16, 62.1-44.17, and 62.1-44.19 of the State Water Control Law aggrieved by any action of the State Water Control Board taken without a formal hearing, or by inaction of the Board, may demand in writing a formal hearing of such owner's grievance, provided a petition requesting such hearing is filed with the Board. Said petition must meet the requirements set forth in §1.23(b) of the Board's Procedural Rule No. 1. In cases involving actions of the Board, such petition must be filed within thirty days after notice of such action is mailed to such owner by certified mail.

A Reliability Class I is assigned to this facility and this facility has Class I licensed operator requirements.

Please contact Anna Westernik at 703-583-3873 or via email at anna.westernik@deq.virginia.gov if you have any questions about the permit.

Respectfully,

Bryant Thomas
Water Permit & Planning Manager

Enc.: Permit for VA0090743
Fact Sheet for VA0090743

cc: DEQ-Water, OWPP
EPA-Region III, 3WP12
Department of Health, Culpeper
Water Compliance, NRO

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Permit No. **VA0090743**
Effective Date: **December 19, 2012**
Expiration Date: **December 18, 2017**

AUTHORIZATION TO DISCHARGE UNDER THE VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM AND AND THE VIRGINIA STATE WATER CONTROL LAW, AND TO PRODUCE OR DISTRIBUTE RECLAIMED WATER UNDER THE WATER RECLAMATION AND REUSE REGULATION

In compliance with the provisions of the Clean Water Act as amended and pursuant to the State Water Control Law and regulations adopted pursuant thereto, the following owner is authorized to discharge and to produce or distribute reclaimed water in accordance with the information contained in the permit application, the Water Reclamation and Reuse Addendum to an Application, this permit cover page, Part I – Effluent Limitations and Monitoring Requirements, and Part II – Conditions Applicable To All VPDES Permits and Part III - Standards and Special Conditions for Reclamation and Reuse, as set forth herein.

Owner Name:	Louisa County Water Authority
Facility Name:	Zion Crossroads WWTP
County:	Louisa
Facility Location:	323 Deer Run Lane, Gordonsville, VA 22942

The owner is authorized to discharge to the following receiving stream:

Stream Names:	Impoundment of Camp Creek/South Anna River
River Basin:	York River
River Subbasin:	None
Section:	3
Class:	III
Special Standards:	None

Thomas A. Faha
Director, Northern Regional Office
Department of Environmental Quality

December 19, 2012
Date

A. Effluent Limitations and Monitoring Requirements

1. Outfall 001 – 0.1 MGD Facility (Discharge to the Camp Creek Impoundment)

a. There shall be no discharge of floating solids or visible foam in other than trace amounts.

b. In addition to any Total Nitrogen or Total Phosphorus concentration limits listed below, this facility has Total Nitrogen and Total Phosphorus calendar year load limits associated with this outfall included in the current Registration List under registration number VAN030154, enforceable under the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Dischargers and Nutrient Trading in the Chesapeake Watershed in Virginia.

c. During the period beginning with the permit's effective date and lasting until the expiration date or the issuance of the CTO for the 0.311 MGD facility, whichever occurs first, the permittee is authorized to discharge from Outfall Number 001. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations				Monitoring Requirements	
	Monthly Average[1]	Weekly Average[1]	Minimum	Maximum[1]	Frequency	Sample Type
Flow[2] (MGD)	NL	NA	NA	NL	Continuous	TIRE
pH	NA	NA	6.0 S.U.	9.0 S.U.	1/D	Grab
$cBOD_5$	10 mg/L 3.8 kg/day	15 mg/L 5.7 kg/day	NA	NA	1/W	4H-C
Total Suspended Solids, TSS	15 mg/L 5.7 kg/day	23 mg/L 8.7 kg/day	NA	NA	1/W	4H-C
Total Kjeldahl Nitrogen, TKN	3.0 mg/L 2.5 lb/day	4.5 mg/L 3.8 lb/day	NA	NA	1/W	4H-C
Dissolved Oxygen	NA	NA	7.0 mg/L	NA	1/D	Grab
E. coli (Geometric Mean)[3]	126 n/100 mLs	NA	NA	NA	2D/W	Grab
Total Phosphorus	2.0 mg/L 1.7 lbs/day	3.0 mg/L 2.5 lb/day	NA	NA	1/W	4H-C
Copper, Total Recoverable	6.5 µg/L	6.5 µg/L	NA	NA	(4)	Grab
Zinc, Total Recoverable	53 µg/L	53 µg/L	NA	NA	(4)	Grab
Total Hardness[5]	NL mg/L	NA	NA	NA	(4)	Grab
Chronic Toxicity – *C. dubia* (TU_c)	NA	NA	NA	NL	1/3M[6,7]	4H-C
Chronic Toxicity – *P. promelas* (TU_c)	NA	NA	NA	NL	1/3M[6,7]	4H-C

(1) See Part I.B.

(2) The design flow is 0.1 MGD.

(3) Samples shall be collected between 10 A.M. and 4 P.M.

(4) See the compliance schedule in Part I.C of the permit.

MGD = Million gallons per day.
NL = No limit; monitor and report.
NA = Not applicable.
TIRE = Totalizing, indicating and recording equipment.
S.U. = Standard units.

1/D = Once every day.
1/W = Once every week.
2D/W = Twice per week.
1/M = Once every month.
1/3M = Once every 3 months.

(5) To be measured at the time metals samples are taken.

(6) The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

(7) See Part I.E. for toxicity monitoring requirements

4H-C = A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 4-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of four (4) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum of four (4) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by 10% or more during the monitored discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

A. Effluent Limitations and Monitoring Requirements

2. Outfall 001 – 0.311 MGD Facility (Discharge to the Camp Creek Impoundment)

a. There shall be no discharge of floating solids or visible foam in other than trace amounts.

b. In addition to any Total Nitrogen or Total Phosphorus concentration limits listed below, this facility has Total Nitrogen and Total Phosphorus calendar year load limits associated with this outfall included in the current Registration List under registration number VAN030154, enforceable under the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Dischargers and Nutrient Trading in the Chesapeake Watershed in Virginia.

c. During the period beginning with the issuance of the CTO for the 0.311 MGD facility and lasting until the discharge point is moved to the South Anna River, the issuance of the CTO for the 0.7 MGD facility, or the permit's expiration date, the permittee is authorized to discharge from Outfall Number 001 into an impoundment of Camp Creek. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations				Monitoring Requirements	
	Monthly Average[1]	Weekly Average[1]	Minimum	Maximum[1]	Frequency	Sample Type
Flow[2] (MGD)	NL	NA	NA	NL	Continuous	TIRE
pH	NA	NA	6.0 S.U.	9.0 S.U.	1/D	Grab
$CBOD_5$	10 mg/L 12 kg/day	15 mg/L 18 kg/day	NA	NA	3D/W	8H-C
Total Suspended Solids, TSS	10 mg/L 12 kg/day	15 mg/L 18 kg/day	NA	NA	3D/W	8H-C
Total Kjeldahl Nitrogen, TKN	3.0 mg/L 7.8 lb/day	4.5 mg/L 12 lb/day	NA	NA	3D/W	8H-C
Dissolved Oxygen	NA	NA	7.0 mg/L	NA	1/D	Grab
E. coli (Geometric Mean)[3]	126 n/100 mLs	NA	NA	NA	3D/W	Grab
$NO_2 + NO_3$ as Nitrogen	NL mg/L	NA	NA	NA	2/M	8H-C
Total Nitrogen[4,5]	NL mg/L	NA	NA	NA	2/M	Calculated
Total Nitrogen – Year to Date[5]	NL mg/L	NA	NA	NA	2/M	Calculated
Total Nitrogen – Calendar Year [5]	6.0 mg/L	NA	NA	NA	1/YR	Calculated
Total Phosphorus	2.0 mg/L 5.2 lb/day	3.0 mg/L 7.8 lb/day	NA	NA	1/W	8H-C
Total Phosphorus – Year to Date[5]	NL mg/L	NA	NA	NA	1/M	Calculated
Total Phosphorus – Calendar Year [5]	0.6 mg/L	NA	NA	NA	1/YR	Calculated
Total Recoverable Copper	6.5 µg/L	6.5 µg/L	NA	NA	(6)	Grab
Total Recoverable Zinc	53 µg/L	53 µg/L	NA	NA	(6)	Grab
Total Hardness[7]	NL mg/L	NA	NA	NA	(6)	Grab
Chronic Toxicity – *C. dubia* (TU_c)	NA	NA	NA	NL	1/3M[8,9]	8H-C
Chronic Toxicity – *P. promelas* (TU_c)	NA	NA	NA	NL	1/3M[8,9]	8H-C

(1) See Part I.B.

(2) The design flow is 0.311 MGD.

(3) Samples shall be collected between 10 A.M. and 4 P.M.

(4) Total Nitrogen is the sum of Total Kjeldahl Nitrogen and NO_2+NO_3 Nitrogen and shall be calculated from the results of those tests.

(5) See Part I.B.3. for nutrient reporting calculations. The calendar year annual averages for Total Nitrogen and Total Phosphorus are effective January 1st of the year after issuance of the CTO for the expanded facility.

(6) See the compliance schedule in Part I.C of the permit.

(7) To be measured at the time metals samples are taken.

(8) The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

(9) See Part I.E. for toxicity monitoring requirements

MGD = Million gallons per day.
NL = No limit; monitor and report.
NA = Not applicable.
TIRE = Totalizing, indicating and recording equipment.
S.U. = Standard units.

1/D = Once every day.
3D/W = Three days a week.
2/M = Twice per month, >7 days apart.
1/YR = Once every year.
1/W = Once every week.
1/M = Once every month.
1/3M = Once every 3 months.

8H-C = A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 8-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of eight (8) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum of eight (8) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by 10% or more during the monitored discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

A. Effluent Limitations and Monitoring Requirements

3. Outfall 001 – 0.7 MGD Facility (Discharge to the Camp Creek Impoundment)

a. There shall be no discharge of floating solids or visible foam in other than trace amounts.

b. In addition to any Total Nitrogen or Total Phosphorus concentration limits listed below, this facility has Total Nitrogen and Total Phosphorus calendar year load limits associated with this outfall included in the current Registration List under registration number VAN030154, enforceable under the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Dischargers and Nutrient Trading in the Chesapeake Watershed in Virginia.

c. During the period beginning with the issuance of the CTO for the 0.7 MGD facility and lasting until the issuance of the CTO for the South Anna River discharge location or the permit's expiration date, the permittee is authorized to discharge from Outfall Number 001 into an impoundment of Camp Creek. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations				Monitoring Requirements	
	Monthly Average[1]	Weekly Average[1]	Minimum	Maximum[1]	Frequency	Sample Type
Flow[2] (MGD)	NL	NA	NA	NL	Continuous	TIRE
pH	NA	NA	6.0 S.U.	9.0 S.U.	1/D	Grab
$CBOD_5$	10 mg/L 26 kg/day	15 mg/L 40 kg/day	NA	NA	3D/W	8H-C
Total Suspended Solids, TSS	10 mg/L 26 kg/day	15 mg/L 40 kg/day	NA	NA	3D/W	8H-C
Dissolved Oxygen	NA	NA	7.0 mg/L	NA	1/D	Grab
Total Kjeldahl Nitrogen, TKN	3.0 mg/L 18 lb/day	4.5 mg/L 26 lb/day	NA	NA	3D/W	8H-C
E. coli (Geometric Mean)[3]	126 n/100 mLs	NA	NA	NA	3D/W	Grab
$NO_2 + NO_3$ as Nitrogen	NL mg/L	NA	NA	NA	2/M	8H-C
Total Nitrogen[4,5]	NL mg/L	NA	NA	NA	2/M	Calculated
Total Nitrogen – Year to Date[5]	NL mg/L	NA	NA	NA	2/M	Calculated
Total Nitrogen – Calendar Year [5]	3.4 mg/L	NA	NA	NA	1/YR	Calculated
Total Phosphorus	2.0 mg/L 12 lb/day	3.0 mg/L 18 lb/day	NA	NA	1/W	8H-C
Total Phosphorus – Year to Date[5]	NL mg/L	NA	NA	NA	1/M	Calculated
Total Phosphorus – Calendar Year[5]	0.4 mg/L	NA	NA	NA	1/YR	Calculated
Total Recoverable Copper	6.5 µg/L	6.5 µg/L	NA	NA	(6)	Grab
Total Recoverable Zinc	53 µg/L	53 µg/L	NA	NA	(6)	Grab
Total Hardness[7]	NL mg/L	NA	NA	NA	(6)	Grab
Chronic Toxicity – *C. dubia* (TU_c)	NA	NA	NA	NL	1/3M[8,9]	8H-C
Chronic Toxicity – *P. promelas* (TU_c)	NA	NA	NA	NL	1/3M[8,9]	8H-C

(1) See Part I.B.

(2) The design flow is 0.7 MGD.

(3) Samples shall be collected between 10 A.M. and 4 P.M.

(4) Total Nitrogen is the sum of Total Kjeldahl Nitrogen and NO_2+NO_3 Nitrogen and shall be calculated from the results of those tests.

(5) See Part I.B.3. for nutrient reporting calculations. The calendar year annual averages for Total Nitrogen and Total Phosphorus are effective January 1st of the year after issuance of the CTO for the expanded facility.

(6) See the compliance schedule in Part I.C of the permit.

(7) To be measured at the time metals samples are taken.

(8) The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

(9) See Part I.E. for toxicity monitoring requirements

MGD = Million gallons per day.
NL = No limit; monitor and report.
NA = Not applicable.
TIRE = Totalizing, indicating and recording equipment.
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8H-C = A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 8-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of eight (8) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum of eight (8) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by 10% or more during the monitored discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

A. Effluent Limitations and Monitoring Requirements

4. Outfalls 002; 003; 004 – 0.311 MGD Facility (Discharge to the South Anna River)

a. There shall be no discharge of floating solids or visible foam in other than trace amounts.

b. In addition to any Total Nitrogen or Total Phosphorus concentration limits listed below, this facility has Total Nitrogen and Total Phosphorus calendar year load limits associated with this outfall included in the current Registration List under registration number VAN030154, enforceable under the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Dischargers and Nutrient Trading in the Chesapeake Watershed in Virginia.

c. During the period beginning with the issuance of the CTO for the 0.311 MGD facility authorizing discharge to the South Anna River and lasting until the issuance of the CTO for the 0.7 MGD facility or the permit's expiration date, the permittee is authorized to discharge from either Outfalls Number 002, 003, or 004 into the South Anna River. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations				Monitoring Requirements	
	Monthly Average[1]	Weekly Average[1]	Minimum	Maximum[1]	Frequency	Sample Type
Flow[2] (MGD)	NL	NA	NA	NL	Continuous	TIRE
pH	NA	NA	6.0 S.U.	9.0 S.U.	1/D	Grab
$CBOD_5$	10 mg/L 12 kg/day	15 mg/L 18 kg/day	NA	NA	3D/W	8H-C
Total Suspended Solids, TSS	10 mg/L 12 kg/day	15 mg/L 18 kg/day	NA	NA	3D/W	8H-C
Total Kjeldahl Nitrogen, TKN	3.0 mg/L 7.8 lb/day	4.5 mg/L 12 lb/day	NA	NA	3D/W	8H-C
Dissolved Oxygen[3]	NA	NA	6.0 mg/L	NA	1/D	Grab
E. coli (Geometric Mean)[3,4]	126 n/100 mLs	NA	NA	NA	3D/W	Grab
Total Residual Chlorine (after dechlorination)[5]	0.009 mg/L	0.011 mg/L	NA	NA	1/D	Grab
$NO_2 + NO_3$ as Nitrogen	NL mg/L	NA	NA	NA	2/M	8H-C
Total Nitrogen[6, 7]	NL mg/L	NA	NA	NA	2/M	Calculated
Total Nitrogen – Year to Date[7]	NL mg/L	NA	NA	NA	2/M	Calculated
Total Nitrogen – Calendar Year[7]	6.0 mg/L	NA	NA	NA	1/YR	Calculated
Total Phosphorus	NL mg/L	NA	NA	NA	2/M	8H-C
Total Phosphorus – Year to Date[7]	NL mg/L	NA	NA	NA	1/M	Calculated
Total Phosphorus – Calendar Year[7]	0.6 mg/L	NA	NA	NA	1/YR	Calculated
Total Recoverable Copper	26 µg/L	26 µg/L	NA	NA	1/M	Grab
Total Recoverable Zinc	210 µg/L	210 µg/L	NA	NA	1/M	Grab
Total Hardness[8]	NL mg/L	NA	NA	NA	1/M	Grab
Chronic Toxicity – *C. dubia* (TU_c)	NA	NA	NA	NL	1/3M[9, 10]	8H-C
Chronic Toxicity – *P. promelas* (TU_c)	NA	NA	NA	NL	1/3M[9, 10]	8H-C

(1) See Part I.B.

(2) The design flow is 0.311 MGD.

(3) To be measured after all treatment and at the South Anna River outfall discharge location.

(4) Samples shall be collected between 10 A.M. and 4 P.M.

(5) To be measured at the South Anna River outfall discharge location.

(6) Total Nitrogen is the sum of Total Kjeldahl Nitrogen and NO_2+NO_3 Nitrogen and shall be calculated from the results of those tests.

(7) See Part I.B.3. for nutrient reporting calculations. The calendar year annual averages for Total Nitrogen and Total Phosphorus are effective January 1st of the year after issuance of the CTO for the expanded facility.

(8) To be measured at the time metals samples are taken.

(9) The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

(10) See Part I.E. for toxicity monitoring requirements.

MGD=Million gallons per day.
NL=No limit; monitor and report.
NA=Not applicable.
TIRE=Totalizing, indicating and recording equipment.
S.U.=Standard units.

1/D = Once every day.
3D/W = Three days a week.
2/M = Twice per month, >7 days apart.
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8H-C = A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 8-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of eight (8) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum of eight (8) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by 10% or more during the monitored discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

A. Effluent Limitations and Monitoring Requirements

5. Outfalls 002; 003; 004 – 0.7 MGD Facility (Discharge to the South Anna River)

a. There shall be no discharge of floating solids or visible foam in other than trace amounts.

b. In addition to any Total Nitrogen or Total Phosphorus concentration limits listed below, this facility has Total Nitrogen and Total Phosphorus calendar year load limits associated with this outfall included in the current Registration List under registration number VAN030154, enforceable under the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Dischargers and Nutrient Trading in the Chesapeake Watershed in Virginia.

c. During the period beginning with the issuance of the CTO for the 0.7 MGD facility authorizing discharge to the South Anna River and lasting until the permit's expiration date, the permittee is authorized to discharge from either Outfalls Number 002, 003, or 004 into the South Anna River. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations				Monitoring Requirements	
	Monthly Average[1]	Weekly Average[1]	Minimum	Maximum[1]	Frequency	Sample Type
Flow[2] (MGD)	NL	NA	NA	NL	Continuous	TIRE
pH	NA	NA	6.0 S.U.	9.0 S.U.	1/D	Grab
$CBOD_5$	10 mg/L 26 kg/day	15 mg/L 40 kg/day	NA	NA	3D/W	8H-C
Total Suspended Solids, TSS	10 mg/L 26 kg/day	15 mg/L 40 kg/day	NA	NA	3D/W	8H-C
Dissolved Oxygen[3]	NA	NA	6.0 mg/L	NA	1/D	Grab
Total Kjeldahl Nitrogen, TKN	3.0 mg/L 18 lb/day	4.5 mg/L 26 lb/day	NA	NA	3D/W	8H-C
E. coli (Geometric Mean)[3,4]	126 n/100 mLs	NA	NA	NA	3D/W	Grab
Total Residual Chlorine (after dechlorination)[5]	0.009 mg/L	0.011 mg/L	NA	NA	1/D	Grab
$NO_2 + NO_3$ as Nitrogen	NL mg/L	NA	NA	NA	2/M	8H-C
Total Nitrogen[6,7]	NL mg/L	NA	NA	NA	2/M	Calculated
Total Nitrogen – Year to Date[7]	NL mg/L	NA	NA	NA	2/M	Calculated
Total Nitrogen – Calendar Year [7]	3.4 mg/L	NA	NA	NA	1/YR	Calculated
Total Phosphorus	NL mg/L	NA	NA	NA	2/M	8H-C
Total Phosphorus – Year to Date[7]	NL mg/L	NA	NA	NA	1/M	Calculated
Total Phosphorus – Calendar Year[7]	0.4 mg/L	NA	NA	NA	1/YR	Calculated
Total Recoverable Copper	26 µg/L	26 µg/L	NA	NA	1/M	Grab
Total Recoverable Zinc	210 µg/L	210 µg/L	NA	NA	1/M	Grab
Total Hardness[8]	NL mg/L	NA	NA	NA	1/M	Grab
Chronic Toxicity – *C. dubia* (TU_c)	NA	NA	NA	NL	1/3M[9,10]	8H-C
Chronic Toxicity – *P. promelas* (TU_c)	NA	NA	NA	NL	1/3M[9,10]	8H-C

(1) See Part I.B.

(2) The design flow is 0.7 MGD.

(3) To be measured after all treatment and at the South Anna River outfall discharge location.

(4) Samples shall be collected between 10 A.M. and 4 P.M.

(5) To be measured at the South Anna River outfall discharge location.

(6) Total Nitrogen is the sum of Total Kjeldahl Nitrogen and NO_2+NO_3 Nitrogen and shall be calculated from the results of those tests.

(7) See Part I.B.3. for nutrient reporting calculations. The calendar year annual averages for Total Nitrogen and Total Phosphorus are effective January 1st of the year after issuance of the CTO for the expanded facility

(8) To be measured at the time metals samples are taken.

(9) The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

(10) See Part I.E. for toxicity monitoring requirements.

MGD = Million gallons per day.
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1/M = Once every month.
1/3M = Once every 3 months.

8H-C = A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 8-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of eight (8) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum of eight (8) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by 10% or more during the monitored discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

B. Additional Monitoring Requirements, Quantification Levels and Compliance Reporting

1. Quantification Levels

   a. The quantification levels (QL) shall be less than or equal to the following concentrations:

Characteristic	Quantification Level
TSS	1.0 mg/L
$CBOD_5$	2 mg/L
TRC	0.10 mg/L
Total Recoverable Copper (Outfall 001)	2.4 µg/L
Total Recoverable Zinc (Outfall 001)	21 µg/L
Total Recoverable Copper (Outfalls 002, 003, 004)	10 µg/L
Total Recoverable Zinc (Outfalls 002, 003, 004)	85 µg/L

   b. The QL is defined as the lowest concentration used to calibrate a measurement system in accordance with the procedures published for the method. The permittee shall use any method in accordance with Part II A of this permit.

   c. It is the responsibility of the permittee to ensure that proper quality assurance/quality control (QA/QC) protocols are followed during the sampling and analytical procedures. QA/QC information shall be documented to confirm that appropriate analytical procedures have been used and the required QLs have been attained.

2. Compliance Reporting for parameters in Part I.A.

   a. Monthly Average –Compliance with the monthly average limitations and/or reporting requirements for the parameters listed in Part I.B.1.a of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in Part I.B.1.a above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis (QL must be less than or equal to the QL listed in Part I.B.1.a above) shall be treated as it is reported. An arithmetic average shall be calculated using all reported data for the month, including the defined zeros. This arithmetic average shall be reported on the Discharge Monitoring Report (DMR) as calculated. If all data are below the QL used for the analysis (QL must be less than or equal to the QL listed in Part I.B.1.a above), then the average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported monthly average concentration is <QL, then report "<QL" for the quantity. Otherwise, use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the monthly average of the calculated daily quantities.

   b. Maximum Weekly Average –Compliance with the weekly average limitations and/or reporting requirements for the parameters listed in Part I.B.1.a of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in Part I.B.1.a above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis (QL must be less than or equal to the QL listed in Part I.B.1.a above) shall be treated as reported. An arithmetic average shall be calculated using all reported data, including the defined zeros, collected within each complete calendar week and entirely contained within the reporting month. The maximum value of the weekly averages thus determined shall be reported on the DMR. If all data are below the QL used for the analysis (QL must be less than or equal to the QL listed in Part I.B.1.a above), then the weekly average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported weekly average concentration is <QL, then report "<QL" for the quantity. Otherwise, use

the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the maximum weekly average of the calculated daily quantities.

c. Single Datum - Any single datum required shall be reported as <QL if it is less than the QL as defined above. Otherwise the numerical value shall be reported.

d. Significant Digits - The permittee shall report at least the same number of significant digits as the permit limit for a given parameter. Regardless of the rounding convention used (i.e., 5 always rounding up or to the nearest even number) by the permittee, the permittee shall use the convention consistently, and shall ensure that consulting laboratories employed by the permittee use the same convention.

3. Nutrient Reporting Calculations for Part I. A.

a. For each calendar month, the DMR shall show the calendar year-to-date average concentration (mg/L) calculated in accordance with the following formulae:

$$MC_{avg}\text{-YTD} = (\Sigma_{(\text{Jan-current month})} MC_{avg}) \div (\#\ \text{of months})$$

where:
MC_{avg}-YTD = calendar year-to-date average concentration (mg/L)
MC_{avg} = monthly average concentration (mg/L) as reported on DMR

b. The total nitrogen and phosphorus average concentrations (mg/L) for each calendar year (AC) shall be shown on the December DMR due January 10th of the following year. These values shall be calculated in accordance with the following formulae:

$$AC_{avg} = (\Sigma_{(\text{Jan-Dec})} MC_{avg}) \div 12$$

where:
AC_{avg} = calendar year average concentration (mg/L)
MC_{avg} = monthly average concentration (mg/L) as reported on DMR

c. For Total Phosphorus, all daily concentration data below the quantification level (QL) for the analytical method used should be treated as half the QL. All daily concentration data equal to or above the QL for the analytical method used shall be treated as it is reported.

d. For Total Nitrogen (TN), if none of the daily concentration data for the respective species (i.e., TKN, Nitrates/Nitrites) are equal to or above the QL for the respective analytical methods used, the daily TN concentration value reported shall equal one half of the largest QL used for the respective species. If one of the data is equal to or above the QL, the daily TN concentration value shall be treated as that data point is reported. If more than one of the data is above the QL, the daily TN concentration value shall equal the sum of the data points as reported.

C. Schedule of Compliance for Total Recoverable Copper and Total Recoverable Zinc

1. The permittee shall achieve compliance with the final limits specified in Part I.A of this permit by November 5, 2016 in accordance with the following schedule:

SCHEDULE OF COMPLIANCE	
ACTION	**TIME FRAME**
1. Report of progress on attainment of final limits.	First Annual Report due January 10, 2014. Second Annual Report due January 10, 2015. Third Annual Report due January 10, 2016.
2. Achieve compliance with final limits.	November 5, 2016

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit to the DEQ, Northern Regional Office (DEQ-NRO), either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next schedule requirement.

3. During the compliance period, the permittee must (1) continue to operate the facility in a manner that will minimize or avoid degradation of the effluent from current operating levels and (2) notify DEQ prior to making any substantial process control modifications that might degrade the quality of the effluent.

4. Monitoring for total recoverable copper and total recoverable zinc shall be conducted once per calendar quarter until a Certificate to Operate is issued for discharge to the South Anna River or November 5, 2016, whichever occurs first, at which time monitoring for total recoverable copper and total recoverable zinc shall be conducted once per month.

D. Pretreatment Requirements

1. The permittee's pretreatment program has been approved. The program is an enforceable part of this permit. The permittee shall:

   a. Within 180 days of the effective date of this permit, submit to the DEQ, Northern Regional Office (DEQ-NRO) a survey of all Industrial Users (IUs) meeting the requirements of the VPDES Permit regulation, 9VAC25-31-10 et seq. and discharging to the POTW. The information shall be submitted to the POTW on the DEQ's Discharger Survey Form or an equivalent form that includes information regarding the quantity and quality of the wastewater. Survey results shall include the identification of significant industrial users (SIUs) of the POTW.

      In lieu of the survey, the permittee may elect to develop and submit for approval a plan to continuously survey the industrial community in their jurisdiction. This plan must be implemented within 90 days of its approval by DEQ-NRO.

   b. Within one year of the effective date of this permit, the permittee shall develop or reevaluate the local limits using current influent, effluent, and sludge monitoring data and submit the data and results of the evaluation to DEQ-NRO. All SIUs shall be sampled at the end of any categorical process and at the entrance to the treatment works, which includes the sewage collection system.

c. Submit to the DEQ-NRO an annual report that describes the permittee's program activities over the previous year. The annual report shall be submitted no later than January 31 of each year and shall include:

1) An updated list of the SIUs to include Categorical Industrial Users (CIUs), as defined in subdivision 3.c. of this section, noting all of the following:

a) Facility address and contact name, including email and phone number;

b) Contact information, SIU Codes, and NAICS Codes for each SIU/CIU;

c) Explanation of SIUs deleted from the previous year's list;

d) Identify which IUs are subject to Categorical Standards and note which Standard (ie. metal finishing);

e) Specify which 40 CFR part(s) is/are applicable;

f) Indicate which IUs are subject to local standards that are more stringent than Categorical Pretreatment Standards;

g) Indicate which IUs are subject only to local requirements;

h) Identify which IUs are subject to Categorical Pretreatment Standards that are subject to reduced reporting requirements under 9VAC25-31-840.E.3.; and

i) Identify which IUs are non-significant CIUs.

2) A summary of the compliance status of each SIU with pretreatment standards and permit requirements.

3) A summary of the number and types of SIU sampling and inspections performed by the POTW.

4) All information concerning any interference, upset, VPDES permit or Water Quality Standards violations directly attributable to SIUs and enforcement actions taken to alleviate said events.

5) A description of all enforcement actions taken against SIUs over the previous 12 months.

6) A summary of any changes to the submitted pretreatment program that has not been previously reported to the DEQ-NRO.

7) A summary of the permits issued to SIUs since the last annual report.

8) POTW and self-monitoring results for SIUs determined to be in significant noncompliance during the reporting period.

9) Results of the POTW's influent/effluent/sludge sampling not previously submitted to DEQ-NRO.

10) Copies of newspaper publications of all SIUs in significant non-compliance during the reporting period. This is due no later than March 31 of each year.

11) Signature of an authorized representative.

d. Submit any changes to the approved pretreatment program to the DEQ-NRO and obtain approval before implementation of the changes.

e. Ensure all SIU permits are issued and reissued in a timely manner and that the SIU permits issued by the POTW are effective and enforceable.

f. Inspect and sample all SIUs at a minimum of once a year.

1) Sampling shall include all regulated parameters, and shall be representative of the wastewater discharged.

2) Inspection of SIUs shall cover all areas that could result in wastewater discharge to the treatment works including manufacturing, chemical storage, pretreatment facilities, spill prevention and control procedures, hazardous waste generation ,and SIU self monitoring report and records review.

g. Implement the reporting requirements of Part VII of the VPDES Permit Regulation (9VAC25-31-730 through 9VAC25-31-900).

h. Review the Legal Authority and Enforcement Response Plan (ERP) to ensure they meet state and federal regulatory requirements. The approved Legal Authority and ERP are enforceable parts of this permit and shall be implemented.

i. Ensure that adequate resources are available to implement the approved program.

j. Meet all public participation requirements and annually public notice SIUs in significant non-compliance with pretreatment standards and requirements for the previous 12 months.

2. The DEQ may require the POTW to institute changes to its pretreatment program:

a. If the approved program is not implemented in a way satisfying the requirements of the Clean Water Act, Water Control Law or State regulations;

b. If problems such as pass-through, interference, water quality standards violations or sludge contamination develop or continue; and

c. If federal, state or local requirements change.

3. Program Streamlining:

a. The Control Authority may determine that an IU subject to categorical Pretreatment Standards under 9VAC25-31-780 and 40 CFR chapter I, subchapter N is a Non-Significant CIU rather than a SIU on a finding that the IU never discharges more than 100 gallons per day (gpd) of total categorical wastewater (excluding sanitary, non-contact cooling and boiler blowdown wastewater, unless specifically included in the Pretreatment Standard) and the following conditions are met:

1) The IU, prior to Control Authority's finding, has consistently complied with all applicable categorical Pretreatment Standards and Requirements;

2) The IU annually submits the certification statement required in 9VAC25-31-840 together with any additional information necessary to support the certification statement; and

3) The IU never discharges any untreated concentrated wastewater.

b. Upon a finding that an IU, meeting the criteria in subdivision 3.c.2 and 3 below, has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or

requirement, the control authority may at any time, on its own initiative or in response to a petition received from an IU or POTW and in accordance with Part VII (9VAC25-31-730 et seq.) of this chapter, determine that such an IU is not a SIU.

c. A SIU is an IU that:

1) Is subject to Categorical Pretreatment Standards under 9VAC25-31-780 and incorporated by reference in 9VAC25-31-30;

2) Discharges an average of 25,000 gallons per workday or more of process wastewater to the POTW (excluding sanitary, noncontact cooling water, and boiler blowdown wastewater);

3) Contributes a process waste stream that makes up 5% or more of the average dry weather hydraulic or organic capacity of the POTW; or

4) Has reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement.

E. Whole Effluent Toxicity Program Requirements

1. Biological Monitoring for the 0.311 MGD Facility

a) Commencing within six (6) months of the effective date of the CTO issuance for the 0.311 MGD facility, the permittee shall conduct calendar quarterly chronic toxicity tests (i.e., January – March, April – June, July – September, October – December) using 8-hour flow-proportioned composite samples of final effluent from Outfall 001, Outfall 002, Outfall 003, or Outfall 004.

The chronic tests to use are:

Chronic 3-Brood Static Renewal Survival and Reproduction Test using *Ceriodaphnia dubia*

Chronic 7-Day Static Renewal Survival and Growth Test using *Pimephales promelas*

These chronic tests shall be conducted in such a manner and at sufficient dilutions (minimum of five dilutions) to determine the "No Observed Effect Concentration" (NOEC) for survival and reproduction or growth. Results which cannot be quantified (i.e., a "less than" NOEC value) are not acceptable and a retest will have to be performed. The NOEC as determined by hypothesis testing shall be converted to TU_c (Chronic Toxic Units) for DMR reporting where $TU_c = 100/NOEC$. Report the LC_{50} at 48 hours and the IC_{25} with the NOEC's in the test report.

b) The permittee may provide additional samples to address data variability. These data shall be reported. Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.

c) The test dilutions shall bracket and include the following endpoints:

A Chronic NOEC $\geq$ 49%; equivalent to a $TU_c \leq 2.04$

d) A statistical analysis shall determine if the effluent is projected or calculated to exhibit a reasonable potential to cause or contribute to an excursion above any Virginia Water Quality Standards. The data may be evaluated sooner if requested by the permittee or if toxicity has been noted. Should evaluation of the data indicate that a limit is warranted, a WET limit and compliance schedule will be required."

e) The permit may be modified or revoked and reissued to include pollutant specific limits in lieu of a WET limit should it be demonstrated that toxicity is due to specific parameters. The pollutant specific limitation shall control the toxicity of the effluent.

f) Should the results of any test exceed the endpoint cited above, the permittee shall conduct a retest of the effluent within 30 days.

g) The permittee may request that the monitoring frequency be reduced to once a year upon completion of eight (8) quarterly testing regimes; which none of the results exceeded the above endpoints.

2. Biological Monitoring for the 0.7 MGD Facility

a) Commencing within six (6) months of the effective date of the CTO issuance for the 0.7 MGD facility, the permittee shall conduct calendar quarterly chronic toxicity tests (i.e., January – March, April – June, July – September, October – December) using 8-hour flow-proportioned composite samples of final effluent from Outfall 001, Outfall 002, Outfall 003, or Outfall 004.

The chronic tests to use are:

Chronic 3-Brood Static Renewal Survival and Reproduction Test using *Ceriodaphnia dubia*

Chronic 7-Day Static Renewal Survival and Growth Test using *Pimephales promelas*

These chronic tests shall be conducted in such a manner and at sufficient dilutions (minimum of five dilutions) to determine the "No Observed Effect Concentration" (NOEC) for survival and reproduction or growth. Results which cannot be quantified (i.e., a "less than" NOEC value) are not acceptable and a retest will have to be performed. The NOEC as determined by hypothesis testing shall be converted to TU_c (Chronic Toxic Units) for DMR reporting where $TU_c = 100/NOEC$. Report the LC_{50} at 48 hours and the IC_{25} with the NOEC's in the test report.

b) The permittee may provide additional samples to address data variability. These data shall be reported. Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.

c) The test dilutions shall bracket and include the following endpoints:

A Chronic NOEC $\geq$ 58%; equivalent to a $TU_c \leq 1.72$

d) A statistical analysis shall determine if the effluent is projected or calculated to exhibit a reasonable potential to cause or contribute to an excursion above any Virginia Water Quality Standards. The data may be evaluated sooner if requested by the permittee or if toxicity has been noted. Should evaluation of the data indicate that a limit is warranted, a WET limit and compliance schedule will be required."

e) The permit may be modified or revoked and reissued to include pollutant specific limits in lieu of a WET limit should it be demonstrated that toxicity is due to specific parameters. The pollutant specific limitation shall control the toxicity of the effluent.

f) Should the results of any test exceed the endpoint cited above, the permittee shall conduct a retest of the effluent within 30 days.

g) The permittee may request that the monitoring frequency be reduced to once a year upon completion of eight (8) quarterly testing regimes; which none of the results exceeded the above endpoints.

F. Other Requirements and Special Conditions

1. 95% Capacity Reopener

A written notice and a plan of action for ensuring continued compliance with the terms of this permit shall be submitted to DEQ-NRO when the monthly average flow influent to the sewage treatment plant reaches 95% of the design capacity authorized in this permit for each month of any three consecutive month period. The written notice shall be submitted within 30 days and the plan of action shall be received at DEQ-NRO no later than 90 days from the third consecutive month for which the flow reached 95% of the design capacity. The plan shall include the necessary steps and a prompt schedule of implementation for controlling any current or reasonably anticipated problem resulting from high influent flows. Failure to submit an adequate plan in a timely manner shall be deemed a violation of this permit.

2. Indirect Dischargers

The permittee shall provide adequate notice to the Department of the following:

a. Any new introduction of pollutants into the treatment works from an indirect discharger that would be subject to Section 301 or 306 of Clean Water Act and the State Water Control Law if it were directly discharging those pollutants; and

b. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of this permit.

c. Adequate notice shall include information on (i) the quality and quantity of effluent introduced into the treatment works, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the treatment works.

3. Operation and Maintenance (O&M) Manual Requirement

The permittee shall maintain a current O&M Manual for the treatment works that is in accordance with Virginia Pollutant Discharge Elimination System Regulations, 9VAC25-31 and the Sewage Collection and Treatment Regulations, 9VAC25-790.

The O&M Manual and subsequent revisions shall include the manual effective date and meet Part II.K.2 and Part II.K.4 Signatory Requirements of the permit. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. The permittee shall operate the treatment works in accordance with the O&M Manual and shall make the O&M manual available to Department personnel for review during facility inspections. Within 30 days of a request by DEQ, the current O&M Manual shall be submitted to the DEQ-NRO for review and approval.

The O&M manual shall detail the practices and procedures that will be followed to ensure compliance with the requirements of this permit. This manual shall include, but not necessarily be limited to, the following items, as appropriate:

a. Permitted outfall locations and techniques to be employed in the collection, preservation, and analysis of effluent, storm water and sludge samples;
b. Procedures for measuring and recording the duration and volume of treated wastewater discharged;
c. Discussion of Best Management Practices, if applicable;
d. Discussion of treatment works design, treatment works operation, routine preventative maintenance of units within the treatment works, critical spare parts inventory and record keeping;

e. Plan for the management and/or disposal of waste solids and residues;
f. Hours of operation and staffing requirements for the plant to ensure effective operation of the treatment works and maintain permit compliance;
g. List of facility, local, and state emergency contacts; and
h. Procedures for reporting and responding to any spills/overflows/ treatment works upsets.

4. CTC and CTO Requirement
In accordance with *Sewage Collection and Treatment* regulation (9VAC25-790), the permittee shall obtain a Certificate to Construct (CTC) and a Certificate to Operate (CTO) from DEQ prior to constructing wastewater treatment works and operating the treatment works, respectively. Non-compliance with the CTC or CTO shall be deemed a violation of the permit.

5. Licensed Operator Requirement
The permittee shall employ or contract at least one Class II licensed wastewater works operator for this facility at the 0.1 MGD and 0.311 design flow tiers. The permittee shall employ or contract at least one Class I licensed wastewater works operator to be available for this facility at the 0.7 MGD design flow tier. The license shall be issued in accordance with Title 54.1 of the Code of Virginia and the regulations of the Board for Waterworks and Wastewater Works Operators. The permittee shall notify the Department in writing whenever he is not complying, or has grounds for anticipating he will not comply with this requirement. The notification shall include a statement of reasons and a prompt schedule for achieving compliance.

6. Reliability Class
The permitted treatment works shall meet Reliability Class I.

7. Water Quality Criteria Reopener
Should effluent monitoring indicate the need for any water quality-based limitations, this permit may be modified or alternatively revoked and reissued to incorporate appropriate limitations.

8. Water Quality Criteria Monitoring
The permittee shall monitor the effluent at Outfall 001 for the substances noted in Part D of EPA NPDES Permit Application Form 2A. Two sampling events shall be conducted. The first event shall be within 180 days of the issuance of the CTO for the 0.311 MGD wastewater treatment plant. The second sampling event shall be at least four months after the first sampling event, but no later than twelve months after the first sampling event. The data shall be submitted to DEQ-NRO using Part D of EPA NPDES Permit Application Form 2A within 90 days after the second sampling event. Monitoring and analysis shall be conducted in accordance with 40 CFR Part 136 or alternative EPA approved methods. It is the responsibility of the permittee to ensure that proper QA/QC protocols are followed during the sample gathering and analytical procedures. DEQ will use these data for making specific permit decisions in the future. This permit may be modified or, alternatively, revoked and reissued to incorporate limits for any of the substances listed in Part D of EPA NPDES Application Form 2A.

9. Sludge Reopener
The Board may promptly modify or revoke and reissue this permit if any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the Clean Water Act is more stringent than any requirements for sludge use or disposal in this permit, or controls a pollutant or practice not limited in this permit.

10. Sludge Use and Disposal
The permittee shall conduct all sewage sludge use or disposal activities in accordance with the Sludge Management Plan (SMP) approved with the issuance of this permit. Any proposed changes in the sewage sludge use or disposal practices or procedures followed by the permittee shall be documented and

submitted for DEQ and Department of Health approval 90 days prior to the effective date of the changes. Upon approval, the revised SMP becomes an enforceable part of the permit. The permit may be modified or alternatively revoked and reissued to incorporate limitations or conditions necessitated by substantive changes in sewage sludge use or disposal practices.

11. Nutrient Offsets

Any annual Total Nitrogen and/or Total Phosphorus loadings above and beyond those permitted prior to July 1, 2005 shall be offset subject to a DEQ-approved trading contract prepared in accordance with 62.1-44.19:12 - :19 of the Law and 9VAC25-820-10 et seq., and which includes, but not limited to, the following:

a. Discussion of the source of the acquired allocations,
b. Discussion of other permitted facilities involved in the trade, and
c. Discussion of any non-point source allocations acquired.

This proposal shall provide for the waste loads that are projected to be discharged on an annual basis for the term of this permit, and shall be approved prior to the commencement of discharge from the new or expanded facility. Once approved, the conditions of the proposal pertaining to verification of non-point allocations acquired, or self-offsetting practices implemented, become an enforceable part of this permit.

12. E3/E4

The annual average concentration limitations for Total Nitrogen and/or Total Phosphorus are suspended during any calendar year in which the facility is considered by DEQ to be a participant in the Virginia Environmental Excellence Program in good standing at either the Exemplary Environmental Enterprise (E3) level or the Extraordinary Environmental Enterprise (E4) level, provided that the following conditions have also been met:

a. The facility has applied for (or renewed) participation, been accepted, maintained a record of sustained compliance and submitted an annual report according to the program guidelines;
b. The facility has demonstrated that they have in place a fully implemented environmental management system (EMS) with an alternative compliance method that includes operation of installed nutrient removal technologies to achieve the annual average concentration limitations; and
c. The E3/E4 designation from DEQ and implementation of the EMS has been in effect for the full calendar year.

The annual average concentration limitations for Total Nitrogen and/or Phosphorus, as applicable, are not suspended in any calendar year following a year in which the facility failed to achieve the annual average concentration limitations as required by b. above.

13. Nutrient Reopener

This permit may be modified or, alternatively, revoked and reissued:

a. If any approved wasteload allocation procedure, pursuant to Section 303(d) of the Clean Water Act, imposes wasteload allocations, limits or conditions on the facility that are not consistent with the permit requirements;

b. To incorporate technology-based effluent concentration limitations for nutrients in conjunction with the installation of nutrient control technology, whether by new construction, expansion or upgrade, or

c. To incorporate alternative nutrient limitations and/or monitoring requirements, should:
   i. the State Water Control Board adopt new nutrient standards for the water body receiving the discharge, including the Chesapeake Bay or its tributaries, or
   ii. a future water quality regulation or statute require new or alternative nutrient control.

14. Discharge from Only One Outfall
Discharge from only one outfall location is allowed at a time.

15. Total Maximum Daily Load (TMDL) Reopener
This permit shall be modified or alternatively revoked and reissued if any approved wasteload allocation procedure, pursuant to Section 303(d) of the Clean Water Act, imposes wasteload allocations, limits or conditions on the facility that are not consistent with the permit requirements.

CONDITIONS APPLICABLE TO ALL VPDES PERMITS

A. Monitoring

1. Samples and measurements taken as required by this permit shall be representative of the monitored activity.
2. Monitoring shall be conducted according to procedures approved under Title 40 Code of Federal Regulations Part 136 or alternative methods approved by the U.S. Environmental Protection Agency, unless other procedures have been specified in this permit.
3. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals that will insure accuracy of measurements.
4. Samples taken as required by this permit shall be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

B. Records

1. Records of monitoring information shall include:
   a. The date, exact place, and time of sampling or measurements;
   b. The individual(s) who performed the sampling or measurements;
   c. The date(s) and time(s) analyses were performed;
   d. The individual(s) who performed the analyses;
   e. The analytical techniques or methods used; and
   f. The results of such analyses.

2. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years, the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or regarding control standards applicable to the permittee, or as requested by the Board.

C. Reporting Monitoring Results

1. The permittee shall submit the results of the monitoring required by this permit not later than the 10th day of the month after monitoring takes place, unless another reporting schedule is specified elsewhere in this permit. Monitoring results shall be submitted to:

   Department of Environmental Quality - Northern Regional Office (DEQ-NRO)
   13901 Crown Court
   Woodbridge, VA 22193

   Monitoring results shall be reported on a Discharge Monitoring Report (DMR) or on forms provided, approved or specified by the Department.

2. If the permittee monitors any pollutant specifically addressed by this permit more frequently than required by this permit using test procedures approved under Title 40 of the Code of Federal Regulations Part 136 or using other test procedures approved by the U.S. Environmental Protection Agency or using

procedures specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or reporting form specified by the Department.

3. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

D. Duty to Provide Information.

The permittee shall furnish to the Department, within a reasonable time, any information which the Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Board may require the permittee to furnish, upon request, such plans, specifications, and other pertinent information as may be necessary to determine the effect of the wastes from this discharge on the quality of state waters, or such other information as may be necessary to accomplish the purposes of the State Water Control Law. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

E. Compliance Schedule Reports

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

F. Unauthorized Discharges

Except in compliance with this permit, or another permit issued by the Board, it shall be unlawful for any person to:

1. Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances; or
2. Otherwise alter the physical, chemical or biological properties of such state waters and make them detrimental to the public health, or to animal or aquatic life, or to the use of such waters for domestic or industrial consumption, or for recreation, or for other uses.

G. Reports of Unauthorized Discharges.

Any permittee who discharges or causes or allows a discharge of sewage, industrial waste, other wastes or any noxious or deleterious substance into or upon state waters in violation of Part II.F.; or who discharges or causes or allows a discharge that may reasonably be expected to enter state waters in violation of Part II.F., shall notify the Department of the discharge immediately upon discovery of the discharge, but in no case later than 24 hours after said discovery. A written report of the unauthorized discharge shall be submitted to the Department, within five days of discovery of the discharge. The written report shall contain:

1. A description of the nature and location of the discharge;
2. The cause of the discharge;
3. The date on which the discharge occurred;
4. The length of time that the discharge continued;
5. The volume of the discharge;
6. If the discharge is continuing, how long it is expected to continue;
7. If the discharge is continuing, what the expected total volume of the discharge will be; and
8. Any steps planned or taken to reduce, eliminate and prevent a recurrence of the present discharge or any future discharges not authorized by this permit.

Discharges reportable to the Department under the immediate reporting requirements of other regulations are exempted from this requirement.

H. Reports of Unusual or Extraordinary Discharges.

If any unusual or extraordinary discharge including a bypass or upset should occur from a treatment works and the discharge enters or could be expected to enter state waters, the permittee shall promptly notify, in no case later than 24 hours, the Department by telephone after the discovery of the discharge. This notification shall provide all available details of the incident, including any adverse affects on aquatic life and the known number of fish killed. The permittee shall reduce the report to writing and shall submit it to the Department within five days of discovery of the discharge in accordance with Part II.I.2. Unusual and extraordinary discharges include but are not limited to any discharge resulting from:

1. Unusual spillage of materials resulting directly or indirectly from processing operations;
2. Breakdown of processing or accessory equipment;
3. Failure or taking out of service some or all of the treatment works; and
4. Flooding or other acts of nature.

I. Reports of Noncompliance

The permittee shall report any noncompliance which may adversely affect state waters or may endanger public health.

1. An oral report shall be provided within 24 hours from the time the permittee becomes aware of the circumstances. The following shall be included as information which shall be reported within 24 hours under this paragraph:
   a. Any unanticipated bypass; and
   b. Any upset which causes a discharge to surface waters.

2. A written report shall be submitted within 5 days and shall contain:
   a. A description of the noncompliance and its cause;
   b. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
   c. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

   The Board may waive the written report on a case-by-case basis for reports of noncompliance under Part II.I. if the oral report has been received within 24 hours and no adverse impact on state waters has been reported.

3. The permittee shall report all instances of noncompliance not reported under Parts II, I.1.or I.2., in writing, at the time the next monitoring reports are submitted. The reports shall contain the information listed in Part II.I.2.

NOTE: The immediate (within 24 hours) reports required in Parts II, G., H. and I. may be made to the Department's Northern Regional Office at (703) 583-3800 (voice) or (703) 583-3821 (fax). For reports outside normal working hours, leave a message and this shall fulfill the immediate reporting requirement. For emergencies, the Virginia Department of Emergency Services maintains a 24-hour telephone service at 1-800-468-8892.

J. Notice of Planned Changes.

1. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

   a. The permittee plans alteration or addition to any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:

      1) After promulgation of standards of performance under Section 306 of Clean Water Act which are applicable to such source; or
      2) After proposal of standards of performance in accordance with Section 306 of Clean Water Act which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal;

   b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations nor to notification requirements specified elsewhere in this permit; or

   c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

2. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

K. Signatory Requirements.

1. All permit applications shall be signed as follows:

   a. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
      1) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or

      2) The manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

   b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

   c. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a public agency includes:

      1) The chief executive officer of the agency, or
      2) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

2. All reports required by permits, and other information requested by the Board shall be signed by a person described in Part II.K.1., or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Part II.K.1.;

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

   c. The written authorization is submitted to the Department.

3. Changes to authorization. If an authorization under Part II.K.2. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part II.K.2. shall be submitted to the Department prior to or together with any reports, or information to be signed by an authorized representative.

4. Certification. Any person signing a document under Parts II, K.1. or K.2. shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

L. Duty to Comply.

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the State Water Control Law and the Clean Water Act, except that noncompliance with certain provisions of this permit may constitute a violation of the State Water Control Law but not the Clean Water Act. Permit noncompliance is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.
The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if this permit has not yet been modified to incorporate the requirement.

M. Duty to Reapply.

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. All permittees with a currently effective permit shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Board. The Board shall not grant permission for applications to be submitted later than the expiration date of the existing permit.

N. Effect of a Permit.

This permit does not convey any property rights in either real or personal property or any exclusive privileges, nor does it authorize any injury to private property or invasion of personal rights, or any infringement of federal, state or local law or regulations.

O. State Law.

Nothing in this permit shall be construed to preclude the institution of any legal action under, or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any other state law or regulation or under authority preserved by Section 510 of the Clean Water Act. Except as provided in permit conditions on "bypassing" (Part II.U.), and "upset" (Part II.V.) nothing in this permit shall be construed to relieve the permittee from civil and criminal penalties for noncompliance.

P. Oil and Hazardous Substance Liability.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Sections 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law.

Q. Proper Operation and Maintenance.

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes effective plant performance, adequate funding, adequate staffing, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

R. Disposal of solids or sludges.

Solids, sludges or other pollutants removed in the course of treatment or management of pollutants shall be disposed of in a manner so as to prevent any pollutant from such materials from entering state waters.

S. Duty to Mitigate.

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

T. Need to Halt or Reduce Activity not a Defense.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

U. Bypass.

1. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Parts II, U.2. and U.3.

2. Notice
   a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, prior notice shall be submitted, if possible at least ten days before the date of the bypass.
   b. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Part II.I.

3. Prohibition of bypass.
   a. Bypass is prohibited, and the Board may take enforcement action against a permittee for bypass, unless:
      1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
      2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
      3) The permittee submitted notices as required under Part II.U.2.

   b. The Board may approve an anticipated bypass, after considering its adverse effects, if the Board determines that it will meet the three conditions listed above in Part II.U.3.a.

V. Upset.

1. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of Part II.V.2. are met. A determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is not a final administrative action subject to judicial review.

2. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a. An upset occurred and that the permittee can identify the cause(s) of the upset;
   b. The permitted facility was at the time being properly operated;
   c. The permittee submitted notice of the upset as required in Part II.I.; and
   d. The permittee complied with any remedial measures required under Part II.S.

3. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

W. Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act and the State Water Control Law, any substances or parameters at any location.

For purposes of this section, the time for inspection shall be deemed reasonable during regular business hours, and whenever the facility is discharging. Nothing contained herein shall make an inspection unreasonable during an emergency.

X. Permit Actions.

Permits may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

Y. Transfer of permits

1. Permits are not transferable to any person except after notice to the Department. Except as provided in Part II.Y.2., a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued, or a minor modification made, to identify the new permittee and incorporate such other requirements as may be necessary under the State Water Control Law and the Clean Water Act.

2. As an alternative to transfers under Part II.Y.1., this permit may be automatically transferred to a new permittee if:
   a. The current permittee notifies the Department at least 30 days in advance of the proposed transfer of the title to the facility or property;
   b. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
   c. The Board does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in Part II.Y.2.b.

Z. Severability

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

A. Standards and Monitoring Requirements

1. **Level 1 Reclaimed Water (Outfall 650).** During the period beginning with the issuance of a Certificate to Operate (CTO) for the reclamation system and ending with the permit expiration date, the permittee is required to monitor pollutants in the Level 1reclaimed water as described below for reuses specified in the Reclaimed Water Management Plan:

Parameter	Standard [1]	Units	Frequency	Sample Type
E. coli [2]	Monthly Geometric mean [3]: ≤ 11	Colonies/100 ml	4D/W [4, 5]	Grab
	CAT: >35	Colonies/100 ml	NA	Grab
Total Residual Chlorine (TRC) [6]	CAT: < 1.0	mg/L	Continuous	Recorded
pH [7]	6.0 – 9.0	Standard Units	1/D	Grab
$cBOD_5$	Monthly average: ≤ 8	mg/L	3D/*W*	8-HC
Turbidity [8]	Daily average [9]: ≤ 2	NTU	Continuous	Recorded
	CAT: > 5	NTU	Continuous	Recorded
Reclamation System Flow [10]	Monthly average: NL	MGD	Continuous	TIRE
	Monthly maximum: NL	MGD	Continuous	TIRE
Influent Flow [11]	Monthly average: NL	MGD	Continuous	TIRE [12]
	Monthly maximum: NL	MGD	Continuous	TIRE [12]
Total Nitrogen [13]	NL	mg/L	2/M	8-HC
Total Phosphorus [13]	NL	mg/L	2/M	8-HC

NA = Not Applicable
CAT = Corrective action threshold
MGD = Million gallons per day
3D/W = Three days per week
4D/W = Four days per week
NL = No Limit
NTU = nephelometric turbidity unit
TIRE = Totalizing, indicating, and recording equipment
1/D = Once per day

8 HC = A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 8-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of eight (8) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum of eight (8) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by 10% or more during the monitored discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

(1) Level 1 standards must be met at the point of compliance (POC) designated as internal outfall 650. The POC shall be just upstream of disinfection for turbidity, at the end contact period for total residual chlorine, and as specified in the approved operations and maintenance manual of the reclamation system for all other standards
(2) After disinfection.
(3) For the purpose of calculating the geometric mean, bacterial analytical results below the detection level of the analytical method used shall be reported as values equal to the detection level.
(4) Bacterial samples shall be collected between 10:00 a.m. and 4:00 p.m. to coincide with peak flows to the reclamation system.
(5) At the 0.311 MGD flow tier, the monitoring frequency for *E. coli* may be reduced to 3D/W after demonstrating compliance with bacterial standards for Level 1 reclaimed water and adequate correlation between bacterial monitoring results and measurements for surrogate disinfection parameters, such as TRC and turbidity for one calendar year. If all reported results for *E. coli* are less than are equal to 11 n/100mL, reported as the geometric mean, the permittee may submit a written request to the Department of Environmental Quality, Northern Regional Office (DEQ-NRO) for a reduction in the *E. Coli* monitoring frequency to 3D/W. Should any of the monitoring results for *E. coli* equal or exceed 11 n/100mL, reported as the geometric mean, the *E. Coli* monitoring frequency shall revert to 4D/W for the remainder of the permit term. Upon issuance of the CTO for the 0.7 MGD flow tier, the *E. Coli* monitoring frequency shall be increased to a daily frequency.
(6) The TRC standard applies only if chlorine is used for disinfection. TRC analysis shall be continuous on-line monitoring, equipped with an automated data logging or recording device and an alarm to notify the operator when the CAT TRC in the standard for Level 1 has been reached. TRC is measured after a minimum contact time of 30 minutes at average flow or 20 minutes at peak flow.
(7) A pH meter shall be used for all pH analysis of reclaimed water.
(8) Turbidity analysis shall be performed by a continuous, on-line turbidity meter equipped with an automated data logging or recording device and an alarm to notify the operator when the CAT for turbidity in the standard for Level 1 has been reached. Compliance with the average turbidity standard shall be determined daily, based on the arithmetic mean of hourly or more frequent discrete measurements recorded during a 24-hour period. See Part III.B.5 for additional information regarding turbidity monitoring.
(9) Daily average is the arithmetic mean of hourly or more frequent discrete turbidity measurements recorded during a 24-hour period.
(10) The designated design capacity for the reclamation system is 0.311 MGD with an authorized expansion to 0.7 MGD.
(11) The design capacity of the wastewater treatment works that will divert source water or effluent to the reclamation system is 0.311 MGD with an authorized expansion to 0.7 MGD.
(12) Influent flow shall be monitored at the Reclamation and Reuse flow meter prior to the chlorine contact pipe.
(13) There shall be no nutrient management requirements for irrigation reuse of the reclaimed water provided by the reclaimed water distribution system based on an annual average concentration of total nitrogen (N) and total phosphorus (P) ≤ 8.0 and ≤ 1.0 mg/L, respectively. Annual average concentrations of total N and total P shall be the arithmetic mean of the monthly average concentrations of these nutrients for the most recent 12 consecutive months of monitoring.

b. Results for the above parameters shall be included in the monthly monitoring report submitted to DEQ-NRO by the 10th of each month for the preceding month's performance.

A. Standards and Monitoring Requirements

2. **Level 2 Reclaimed Water (Outfall 676).** During the period beginning with the issuance of a Certificate to Operate (CTO) for the reclamation system and ending with the permit expiration date, the permittee is required to monitor pollutants in the Level 2 reclaimed water as described below for reuses specified in the Reclaimed Water Management Plan:

Parameter	Standard [1]	Units	Frequency	Sample Type
E. coli [2]	Monthly Geometric mean [3]: ≤ 126	Colonies/100 ml	3D/W [4]	Grab
	CAT: >235	Colonies/100 ml	NA	Grab
Total Residual Chlorine (TRC) [5]	CAT: < 1.0	mg/L	Continuous	Recorded
pH [6]	6.0 – 9.0	Standard Units	1/D	Grab
$cBOD_5$	Monthly average: ≤ 25	mg/L	3D/*W*	8-HC
TSS	Daily average [8]: ≤ 30	NTU	3D/*W*	Recorded
	Maximum weekly average ≤ 45	NTU	3D/*W*	Recorded
Reclamation System Flow [9]	Monthly average: NL	MGD	Continuous	TIRE
	Monthly maximum: NL	MGD	Continuous	TIRE
Influent Flow [10]	Monthly average: NL	MGD	Continuous	TIRE [11]
	Monthly maximum: NL	MGD	Continuous	TIRE [11]
Total Nitrogen [12]	NL	mg/L	2/M	8-HC
Total Phosphorus [12]	NL	mg/L	2/M	8-HC

NA = Not Applicable
CAT = Corrective action threshold
MGD = Million gallons per day
3D/W = Three days per week
5D/W = Five days per week

NL = No Limit
NTU = nephelometric turbidity unit
TIRE = Totalizing, indicating, and recording equipment
1/D = Once per day

8 HC = A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 8-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of eight (8) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum of eight (8) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by 10% or more during the monitored discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

(1) Level 2 standards must be met at the point of compliance (POC) designated as internal outfall 676. The POC shall be just upstream of disinfection for turbidity, at the end contact period for total residual chlorine, and as specified in the approved operations and maintenance manual of the reclamation system for all other standards
(2) After disinfection.
(3) For the purpose of calculating the geometric mean, bacterial analytical results below the detection level of the analytical method used shall be reported as values equal to the detection level.
(4) Bacterial samples shall be collected between 10:00 a.m. and 4:00 p.m. to coincide with peak flows to the reclamation system.
(5) The TRC standard applies only if chlorine is used for disinfection. TRC is measured after a minimum contact time of 30 minutes at average flow or 20 minutes at peak flow.
(6) A pH meter shall be used for all pH analysis of reclaimed water.
(8) Daily average is the arithmetic mean of hourly or more frequent discrete turbidity measurements recorded during a 24-hour period.
(9) The designated design capacity for the reclamation system is 0.311 MGD with an authorized expansion to 0.7 MGD.
(10) The design capacity of the wastewater treatment works that will divert source water or effluent to the reclamation system is 0.311 MGD with an authorized expansion to 0.7 MGD.
(11) Influent flow shall be monitored at the Reclamation and Reuse flow meter prior to the chlorine contact pipe.
(12) There shall be no nutrient management requirements for irrigation reuse of the reclaimed water provided by the reclaimed water distribution system based on an annual average concentration of total nitrogen (N) and total phosphorus (P) ≤ 8.0 and ≤ 1.0 mg/L, respectively. Annual average concentrations of total N and total P shall be the arithmetic mean of the monthly average concentrations of these nutrients for the most recent 12 consecutive months of monitoring.

b. Results for the above parameters shall be included in the monthly monitoring report submitted to DEQ-NRO by the 10th of each month for the preceding month's performance.

B. Special Conditions for Water Reclamation and Reuse

1. Submittal of a Reclaimed Water Management Plan.

   At least120 days before the reclamation system is placed into into operation, the permittee shall submit a final Reclaimed Water Management Plan (RWMP) containing the requirements identified in 9VAC25-740-100.C to DEQ. Reclamation and reuse shall not commence until the plan is approved by DEQ.

2. Prohibitions for Reuse and Reclamation.

   The following are prohibited:

   a. Direct potable reuse;

   b. The reuse of reclaimed water for any purpose inside a residential or domestic dwelling or a building containing a residential or domestic unit;

   c. The reuse of reclaimed water to fill residential swimming pools, hot tubs or wading pools;

   d. The reuse of reclaimed water for food preparation or incorporation as an ingredient into food or beverage for human consumption;

   e. Bypass of untreated or partially treated wastewater from the reclamation system or any intermediate unit process to the point of reuse unless the bypass complies with standards and requirements specified in this permit and is for essential maintenance to assure efficient operation; and

   f. The return of reclaimed water to the reclaimed water distribution system after the reclaimed water has been delivered to an end user.

3. Nuisance Conditions.
   There shall be no nuisance conditions (e.g., ponded water that attracts mosquitoes or other vectors; strong odors that the Department determines are the subject of frequent and wide spread complaints from the surrounding community; any condition determined by a court of law to be a nuisance condition) resulting from the distribution, use or storage of reclaimed water.

4. Reclamation and Reuse Reopener.
   The Board may modify or revoke and reissue this permit if any applicable standards or requirements for water reclamation and reuse promulgated under the Water Reclamation and Reuse Regulation (9VAC25-740) are more stringent than or are in addition to any standards or requirements for water reclamation and reuse contained in this permit.

5. Submittal of Monitoring Reports.
   Discharge of reclaimed water from reclamation system and system storage facility to a reclaimed water distribution system, a non-system storage facility or directly to a reuse of the reclaimed water at any time for any duration within a monthly reporting period, shall require monitoring in accordance with Part III.A and submittal of a monthly monitoring report for the discharge.

6. Corrective Action Threshold for Turbidity and TRC.
   Should reclaimed water reach the corrective action threshold (CAT) for turbidity and/or TRC specified in Part III.A. of this permit, the operator of the reclamation system shall immediately initiate a review of treatment operations and data to identify the cause of the CAT monitoring results to bring the reclaimed water back into compliance with the standards. Resampling or diversion shall occur within one hour of first reaching the CAT. Procedures for resampling, operational review and diversion shall be as described in the approved operations and maintenance manual for the reclamation system. If subsequent monitoring results of the resamples collected within one hour of the first CAT monitoring results for turbidity and/or TRC continue to reach the CAT, the reclaimed water shall be considered substandard or reject water and shall be diverted to either storage for subsequent additional treatment or retreatment or discharged to a

VPDES permitted effluent disposal system provided the reject water meets applicable effluent limits. If the reclamation system is unattended, the diversion of reject water shall be initiated and performed with automatic equipment. There shall be no automatic restarts of distribution to reuse until the treatment problem is corrected. Failure to divert the substandard or reject water after one hour of CAT monitoring results shall be considered a violation of this permit. Upon resuming discharge of reclaimed water to the reclaimed water distribution system for which the CAT was reached, resampling for turbidity and/or TRC shall occur within one hour to verify proper treatment.

7. Corrective Action Threshold for Bacteria.
Should the reclaimed water reach the CAT for E. coli specified in Part III.A of this permit, the operator of the reclamation system shall immediately initiate a review of treatment operations and data to identify the cause of the CAT monitoring results to bring the reclaimed water back into compliance with the standards. Procedures for operational review shall be as described in the approved operations and maintenance manual for the reclamation system. Two consecutive bacterial monitoring results that reach the CAT of the standards shall be considered a violation of this permit.

8. Failure to Resample.
Failure to resample after determination that monitoring results are not in compliance with the CAT standards for reclaimed water in Part III.A, or to divert or discharge substandard or reject water in accordance with Part III.B.5. shall be deemed a violation of this permit.

9. Online Turbidity Meter.
Should the on-line turbidity meter for the reclamation system go out of service for either planned or unplanned repair, samples shall be manually collected for turbidity analysis at four-hour intervals up to a maximum of five days. Following the five-day period of repair, continuous, on-line monitoring with a turbidity meter shall resume.

10. Class Operator.
The classification of the operator for the reclamation system is Class I. The permittee shall employ or contract at least one operator who holds a current Class I license and the license shall be issued in accordance with Title 54.1 of the Code of Virginia and the regulations of the Board for Waterworks and Wastewater Works Operators. The permittee shall notify DEQ-NRO in writing when compliance with this requirement is not being achieved or it is anticipated that compliance with this requirement will not be achieved. The notification shall include a statement of reasons and a prompt schedule for achieving compliance.

The reclamation system shall be manned while in operation and under the supervision of the Class I operator unless the system is equipped with remote monitoring and, as applicable, automated diversion of substandard or reject water in accordance with Part III.B.5. of this permit.

11. Operation and Maintenance Manual.
Within 90 days of placing the new reclamation system into operation, the permittee shall submit to the DEQ-NRO changes to the operations and maintenance (O&M) manual for the Zion Crossroads WWTP addressing the operation and maintenance of the reclamation system. These changes shall reflect the practices and procedures followed by the permittee to ensure compliance with the permit. Upon approval, these changes to the O&M manual shall be incorporated into the existing document and be an enforceable part of the permit.

The operations and maintenance manual shall be maintained on site at the Zion Crossroads WWTP and shall, at a minimum, contain the following related to the operations and maintenance of the reclamation system:

a. A description of unit treatment processes within the reclamation system and step-by-step instructions for the operation of these processes;

b. A description of all appurtenances associated with the reclamation system (i.e., storage facilities, distribution system, etc.), step-by-step instructions for their operation, and a description of their maintenance;

c. Routine maintenance and schedules of maintenance for each unit treatment process in the system;

d. The design dose and procedures for monitoring the operational dose of the UV disinfection system for the reclamation system;

e. The criteria and equipment used to make continuous determinations of the acceptability of the reclaimed water being produced and alarm set points for parameters measured by continuous on-line monitoring equipment;

f. Descriptions of the following that shall comply with the standard and conditions of this permit:

   (1) Reclaimed water sampling and monitoring procedures and equipment. This shall include, but is not limited to, a description of sample handling, preservation and chemical analyses; and calibration and schedules of calibration for monitoring equipment;

   (2) The sampling location[s] for the point[s] of compliance; and

   (3) Control system, alarm functions, record keeping and reports;

g. Hours of reclamation system operation, hours that the system will be staffed, procedures to be followed by the staff during a period when an operator is not present at the system, and training of the staff regarding operation and maintenance of the system;

h. The physical steps and procedures to be followed by the operator when substandard water is being produced, including resampling and operational review required in accordance with Part III.B.5 and 6. of this permit;

i. The physical steps and procedures to be followed by the operator when the treatment works returns to normal operation and acceptable quality reclaimed water is again being produced;

j. Responsible officials and their duties, roles and contact information;

k. Information necessary for the proper management of sludge or residuals from reclamation treatment;

l. A contingency plan to eliminate or minimize the potential for untreated or inadequately treated water to be delivered to reuse areas. The plan shall, among other things:

   (1) Identifying persons responsible for implementing the contingency plan and their contact information;

(2) Reference and be coordinated with the education and notification program contained in the approved RWM Plan for any release of untreated or inadequately treated water to the reclaimed water distribution system;

(3) Describe for the UV disinfection system action to be taken in response to:

(a) Lamp breakage and possibly mercury release;

(b) Low operational UV dose, low UV intensity or high turbidity alarms;

(c) Failure of the upstream treatment processes or the UV disinfection system; and

(d) Power supply interruptions where an uninterruptable power supply is not provided for the UV disinfection system.

(4) Describe activation of standby UV equipment to include either a standby reactor for each reactor train or a standby reactor train or activation of an alternative to standby UV equipment, such as adequate storage or other contingency arrangements, which shall manage the substandard water flow during UV disinfection failure.

m. Location of back up or replacement parts critical to the operation of unit treatment processes within the reclamation system;

n. A list of chemicals and materials in storage areas and the location of storage areas; and

o. A plan for inactivation or closure of the reclamation system specifying what steps will be taken to protect the environment and public health. At a minimum, the closure plans shall include a list of all waste products remaining at the facility, information characterizing each waste (i.e., volume, percent solids, nutrient content, etc.), and a description of procedures to remove or properly dispose of the these wastes.

12. 95% Designed Design Capacity.
When the monthly average flow into the reclamation system reaches 95% of the designated design capacity authorized by this permit for each month of any 3 consecutive month period, a written notice and a plan of action for ensuring continued compliance with the terms of this permit shall be submitted to DEQ-NRO. The written notice shall be submitted within 30 days and the plan of action shall be received at DEQ-NRO no later than 90 days from the third consecutive month for which the flow reached 95% of the designated design capacity. The plan of action shall include the necessary steps and a prompt schedule of implementation for controlling any current problem, or any problem which could be reasonably anticipated, resulting from high flows entering the reclamation system. Failure to submit an adequate plan in a timely manner shall be deemed a violation of this permit.

13. BNR Reopener.
When the annual average concentration of total nitrogen (N) or total phosphorus (P) in the reclaimed water exceeds 8.0 mg/L or 1.0 mg/L, respectively, for the preceding calendar year (January through December), a written notice of such nutrient reduction failure and a plan of action for ensuring the reclamation system achieves BNR treatment of the reclaimed water shall be submitted by the permittee to DEQ-NRO for review and approval. The written notice shall be submitted by February 1 and the plan of action shall be submitted no later than April 1. The plan of action shall include the necessary steps and a prompt schedule of implementation for the reclamation system to achieve BNR treatment. Upon its approval, said plan and schedule shall become a part of and enforceable under the provisions of this permit. Failure to submit the

required notice or failure to submit an adequate plan in a timely manner shall be deemed a violation of this permit.

14. Tank Trucks Requirements.
Tank trucks used to distribute reclaimed water shall:

a. Be clearly labeled to identify the contents of the truck as non-potable water;

b. Not transport potable water used for drinking water of food preparation;

c. Not transport reclaimed water that does not meet the standards specified in Part III.A of this permit unless the truck has been evacuated and properly cleaned prior to the addition of the reclaimed water; and

d. Not be filled through on-board piping or removable hoses that may subsequently be used to fill tanks with water from a potable water supply.

15. Minimizing Losses.
The reclaimed water distribution system shall be maintained to minimize losses and to ensure safe and reliable conveyance of reclaimed water, such that the reclaimed water in the distribution system will not be degraded to a quality that violates the standards in this permit for the intended reuse of the reclaimed water specified in the approved Reclaimed Water Management (RWM) Plan.

16. Operation and Maintenance Manual for the Reclaimed Water Distribution System.
Within 90 days of placing the reclamation system into operation, the permittee shall develop an operations and maintenance manual for the reclaimed water distribution system to be made available at a location central to the system. The permittee shall maintain the manual and include any changes in the practices and procedures followed by the permittee in the manual.

The operations and maintenance manual for the reclaimed water distribution system shall, at a minimum, contain the following:

a. A description of all components within the distribution system and step-by-step instructions for the operation of specific mechanical components;

b. Routine and unplanned inspection of the distribution system, including required inspections for the cross-connection and backflow prevention program contained in the approved RWM Plan;

c. Routine maintenance and schedules of maintenance for all components of the distribution system. Maintenance shall include, but is not be limited to, initial and routine flushing of the distribution system, measures to prevent or minimize corrosion, fouling and clogging of distribution lines; and detection and repair of broken distribution lines, flow meters or pumping equipment;

d. Procedures to handle and dispose of any wastes or wastewater generated by maintenance of the distribution system in a manner protective of the environment; and

e. A plan for inactivation or closure of the reclaimed water distribution system specifying what steps will be taken to protect the environment and public health.

17. Storage of Reject Water.
All storage facilities of reject water and reclaimed water (system and non-system), including landscape impoundments used for non-system storage of reclaimed water, shall be designed and operated to prevent a discharge to surface waters of the state except in the event of a storm greater than the 25-year 24-hour storm.

18. Freeboard.
The permittee shall maintain a minimum freeboard of two feet at all times in the reject water storage facility. Non-compliance with the minimum two-foot freeboard requirement at any time shall be reported orally and in writing by the permittee to the DEQ-NRO in accordance with Part II.I of this permit.

19. Storage Inventory.
A current inventory of reject water storage, system storage and non-system storage facilities located within the service area of the approved RWM plan shall be maintained. For the addition of new storage facilities to the inventory after permit administrative authorization, the permittee shall submit to DEQ-NRO an amended inventory at least 30 days before reclaimed water will be introduced into the new storage facilities. An inventory of reject water storage, system storage and non-system storage facilities shall include the following:

a. Name or identifier for each storage facility,

b. Location of each storage facility (including latitude and longitude),

c. Function of each storage facility (i.e., reject water storage, system storage or non-system storage),

d. Type of each storage facility (i.e., covered tank, uncovered tank, lined pond, unlined pond, etc.), and

e. Location (latitude and longitude) and distance of the nearest potable water supply well and spring, and public water supply intake, to each storage facility within 450 feet of that facility.

20. Storage Monitoring.
The permitee shall monitor reclaimed water in system storage to verify that it complies with reclaimed water standards for the system storage contained in Part III.A of this permit. The permittee shall also include in the contingency plan of the operations and maintenance for the reclamation system required per Part III.B.11, a description of measures to eliminate or minimize the potential to deliver inadequately treated reclaimed water from system storage to reuse areas.

21. Preliminary Engineer Report.
A preliminary engineering report shall be submitted for new reclamation system, satellite reclamation system or reclaimed water distribution system; or for the modification or expansion of the same facilities where they already exist. At the request of the permittee, the DEQ-NRO may waive the need for a preliminary engineering report or portions of a preliminary engineering report for modification or expansion of an existing reclamation system, satellite reclamation system or reclaimed water distribution system as determined by the scope of the proposed project.

22. CTC/CTO.
The permittee shall not cause or allow the construction, expansion or modification, and the operation of the reclamation system and/or satellite reclamation system except in compliance with a certificate to construct (CTC) and a certificate to operate (CTO), respectively, issued by the DEQ.

23. Public Access.
There shall be no uncontrolled public access to the reclamation system and/or system storage facilities. System storage ponds shall be enclosed with a fence or otherwise designed with appropriate features to discourage the entry of animals and unauthorized persons.

24. Advisory Signs.
For all reuses of reclaimed water treated to Level 1, advisory signs or placards shall be posted within and at the boundaries of reuse areas, and shall display a non-potable water warning statement and symbol, and other necessary information as described in 9VAC25-740.

25. Placement of Advisory Signs.
Advisory signs shall be posted adjacent to impoundments or ponds, including landscape impoundments, used for non-system storage of reclaimed water.

26. Advisory Signs for Industrial Sites.
For industrial reuses, advisory signs shall be posted around those areas of the industrial site where reclaimed water is used and at the main entrances to the industrial site to notify employees and the visiting public of the reclaimed water reuse. Access control beyond what is normally provided by the industry is not required.

27. Supplemental Irrigation and Salt Accumulation
All irrigation reuses of reclaimed water shall be supplemental irrigation, which in combination with rainfall, meets but does not exceed the water necessary to maximize production or optimize growth of the irrigated vegetation. For all bulk irrigation reuse sites identified in the reclaimed water management plan for the permitted reclamation system and/or reclaimed water distribution system, the rate of supplemental irrigation shall be calculated for every day that irrigation with reclaimed water occurs.

Where it is demonstrated by the permittee or an end user other than the permittee that salts will accumulate or have accumulated in the soil of an irrigation reuse site to concentrations that adversely affect the productivity or growth of the irrigated vegetation, and the application of reclaimed water will not contribute or has not contributed significantly to the salt problem, an additional volume of reclaimed water less than or equal to 10% of the water lost to evapotranspiration by the irrigated vegetation may be used for leaching and shall be included in the calculation of supplemental irrigation. Where it is demonstrated by the permittee or an end user other than the permittee that salts will accumulate or have accumulated in the soil of an irrigation reuse site to concentrations that adversely affect the productivity or growth of the irrigated vegetation, and the application of reclaimed water will contribute or has contributed significantly to the salt problem, no additional reclaimed water shall be applied for the purpose of leaching salts from the soil at the site. Any additional volume of water required for leaching that is not or can not be reclaimed water (e.g., rainwater, potable water, etc.) shall be included in the calculation of supplemental irrigation.

28. Irrigation Reuse Requirements
For all irrigation reuses of reclaimed water, the following shall be required:

a. There shall be no application of reclaimed water to the ground when it is saturated, frozen or covered with ice or snow, and during periods of rainfall.

b. The chosen method of irrigation shall minimize human contact with the reclaimed water.

c. Reclaimed water shall be prevented from coming into contact with drinking fountains, water coolers, or eating surfaces.

29. Overspray Prohibitions for Irrigation Reuse
Overspray of surface waters, including wetlands, from irrigation or other reuses of reclaimed water is prohibited.

30. Irrigation Setbacks
For sites irrigated with reclaimed water meeting a minimum of Level 1 standards contained in Part III.A.1 of this permit, the following setback distances are required:

a.	Potable water supply wells and springs, and public water supply intakes	100 feet
b.	Non-potable water supply wells	10 feet
c.	Limestone rock outcrops and sinkholes	50 feet

No setback distances are required from occupied dwellings and outdoor eating, drinking and bathing facilities. However, aerosol formation shall be minimized within 100 feet of occupied dwellings and outdoor eating, drinking and bathing facilities through the use of low trajectory nozzles for spray irrigation, above-ground drip irrigation, or other means.

For sites irrigated with reclaimed water meeting a minimum of Level 2 standards contained in Part III.A.2 of this permit, the following setback distances are required:

a.	Potable water supply wells and springs, and public water supply intakes	200 feet
b.	Non-potable water supply wells	10 feet
c.	Surface waters, including wetlands	50 feet
d.	Occupied dwelling	200 feet
e.	Property lines and areas accessible to the public	100 feet
f.	Limestone rock outcrops and sinkholes	50 feet

31. Reducing Setback Distances for Level 2 Reclaimed Water
For sites irrigated with reclaimed water meeting a minimum of Level 2 standards contained in Part I.A.2 of this permit, the setback distances specified in Part III.30 of this permit may be reduced as follows with DEQ approval:

a. Up to but not exceeding 50% from occupied dwellings and areas accessible to occupied dwellings unless alternative measures are implemented to provide an equivalent level of public health protection. Such measures shall include, but not be limited to, disinfection of the reclaimed water equivalent to meet Level 1 standards contained in Part III.A.1 of this permit, application of the reclaimed water by methods that minimize aerosol formation (e.g., low trajectory nozzles for spray irrigation, above-ground drip irrigation), installation of permanent physical barriers to prevent migration of aerosols from the reclaimed water irrigation site, or any combination thereof. Written consent of affected landowners is required to reduce setback distances from occupied dwellings.

b. Up to 100% from property lines with written consent from adjacent landowners.

c. Up to but not less than 100 feet from potable water supply wells and springs or public water supply intakes where it is demonstrated that disinfection of the reclaimed water is equivalent to Level 1 standards contained in Part III.A.1 of this permit, and there are not other constituents of the reclaimed

water present in quantities sufficient to be harmful to human health.

d. Up to but not less than 25 feet from surface waters, including wetlands, where reclaimed water shall be applied by methods that minimize aerosol formation (e.g., low trajectory nozzles for spray irrigation, above-ground drip irrigation); or permanent physical barriers are installed to prevent the migration of aerosols from the reclaimed water irrigation site to surface waters.

32. Multiple Setbacks for Irrigation
For irrigation reuses where more than one setback distance may apply, the greater setback distance shall govern.

33. Setback Distances Measurements for Irrigation Reuse
Unless specifically stated otherwise, all setback distances shall be measured horizontally.

34. Setback Distance for Non-irrigation Reuse
A setback distance of 100 feet horizontally shall be maintained from indoor aesthetic features to adjacent indoor public eating and drinking facilities within the same room or building space where reclaimed water meeting the Level 1 standards specified in Part III.A of this permit is used in the aesthetic features and the aesthetic features have the potential to create aerosols.

35. Cooling Tower Spray
A setback distance of 300 feet horizontally shall be provided from an open cooling tower to the site property line where reclaimed water meeting Level 2 standards specified in Part III.A.2 of this permit is used in the tower. No setback distance shall be required from an open cooling tower to the site property line where a drift or mist eliminator is installed and properly operated, or the reclaimed water used in the tower is treated to meet Level 1 disinfection standards contained in 9VAC25-740.

36. Worker Contact with Level 2 Reclaimed Water
Worker contact with reclaimed water meeting the Level 2 standards specified in Part III.A.2 of this permit shall be minimized. Level 1 disinfection shall be provided when worker contact with the reclaimed water is likely. Windblown spray generated by once-through cooling or recirculating cooling towers that reuse reclaimed water meeting the Level 2 standards specified in Part III.A.2 of this permit shall not reach areas accessible to workers or the public unless Level 1 disinfection specified in Part III.A.1 of this permit is used.

37. Reclaimed Water Failure
Where treatment of the reclaimed water fails more than once during a seven-day period to comply with Level 1 disinfection contained in Part III.A of this permit for the protection of human health, and the non-compliant reclaimed water has been discharged to the reclaimed water distribution system, the permittee shall notify the end user in accordance with the permittee's approved education and notification program of the treatment failures and advise the end user of precautions to be taken to protect public health when using the reclaimed water in areas accessible to the public or where human contact with the reclaimed water is likely. These precautions shall be implemented for a minimum of seven days. Where reclaimed water service to end users will be interrupted due to planned causes, such as scheduled repairs, the permittee shall provide advance notice to end users of the anticipated date and duration of the interrupted service. Where reclaimed water service to end users is disrupted by unplanned causes, such as an upset at the reclamation system, the permittee shall notify end users and the affected public of the disrupted service if it can not or will not be restored within eight hours of discovery.

The permittee shall also describe and report all notifications of end users and the affected public for causes described above.

38. New End Users

For the addition of new end users not contained in the approved reclaimed water management (RWM) plan, the permittee shall submit to DEQ-NRO an amendment to the RWM plan identifying new end users not less than 30 days prior to connection and reclaimed water service to these users. For each new end user, the permittee shall also provide all applicable information required by the Water Reclamation and Reuse Application Addendum.

39. Interruption of Reclaimed Water Supply

For each interruption or loss of reclaimed water supply, the permittee shall report to DEQ-NRO in writing the following information at the time the next reclamation and reuse monthly monitoring report is submitted:

a. The service area affected by the interruption or loss of reclaimed water supply;

b. The initial date and time of the interruption or loss of reclaimed water supply and duration;

c. The cause of interruption or loss of reclaimed water supply, additionally indicating whether the cause was planned or unplanned; and

d. If the interruption was unplanned, describe the steps taken to correct the problem and to prevent the problem from recurring.

Each discharge of any untreated or partially treated water to the service area of intended reuse that fails to comply with reclaimed water standards contained in Part III.A shall be reported by the permittee as a noncompliance in accordance with Part II.I of this permit.

40. Recordkeeping

In addition to records specified in Part II.B of this permit, the permittee shall maintain the following at the reclamation system for the period specified in Part II.B:

a. Water reclamation and reuse operating records to include all analyses required for reclaimed water in Part III.A of this permit, records of operational problems, alarm failures, unit process and equipment breakdowns, diversions to reject storage or emergency storage, discharge to another permitted reuse system requiring a lower level of treatment, or disposal via a permitted effluent discharge; and all corrective or preventive action taken.

b. A monthly summary of the operating records specified in a. of this condition.

41. Annual Water Reclamation and Reuse Report

The permittee shall submit an annual report for the reclaimed water distribution system covering a 12-month period from January 1 through December 31 to DEQ-NRO on or before February 10 of the following year. The annual report shall, at a minimum, include:

a. The estimated volume of reclaimed water distributed to the service area of the RWM plan, reported as monthly totals.

b. A summary of ongoing education and notification program activities. The summary shall include, at a minimum:

(1) Copies of educational materials,

(2) The number and duration of notifications to end users per month for the following causes:

(a) More than one treatment failure within a 7-day period at the reclamation system with subsequent discharge to the reclaimed water distribution system,

(b) Planned disruption of reclaimed water service to end users, and

(c) Unplanned disruption of reclaimed water service to end users.

42. Determining Supplemental Irrigation Rates
The permittee shall submit ninety (90) days prior to commencing bulk irrigation reuse the method for determining the supplemental irrigation rates to DEQ-NRO for review and approval.